ABSTRACT

Implementations of this invention provide a technology for generating a minimum delta between at least two program binaries. An implementation of this invention is given a source program (S) in a binary format and a target program (T) in a binary form. It constructs control flow graphs (CFGs) of each. It matches common blocks of the S's CFGs and T's CFGs. The blocks are matched based upon their content and their local neighborhoods. In addition, the register renaming problems is solved so that blocks can be fairly compared. This implementation of this invention produces an intermediate output, which is the content of unmatched blocks. It generates a set of edge edit operations for merging the unmatched blocks into S. The combination of the unmatched blocks and the edit operations is the delta. To patch S to produce a reconstructed copy of T, the delta is merged with S. This abstract itself is not intended to limit the scope of this patent. The scope of the present invention is pointed out in the appending claims.